



North Carolina Department of Environment and Natural Resources

Dexter Matthews, Director

Division of Waste Management

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

January 17, 2012

Sent Via Email - JANM@cityofws.org

Ms. Jan McHargue
Winston-Salem City/County Utility Commission
P.O. Box 2511
Winston-Salem, NC 27102

Re: *Assessment Monitoring Plan for MW-2R*
Old Salisbury Road (OSR) C&D Landfill, Forsyth County, Permit Number 34-12
DIN 15916

Dear Ms. McHargue:

The Solid Waste Section has completed a review of the *Assessment Monitoring Work Plan for MW-2R* dated December 9, 2011 (DIN 15819) and submitted via email on December 12, 2011 on behalf of the Winston-Salem City/County Utility Commission by HDR Engineering, Inc. of the Carolinas for the Old Salisbury Road C&D Landfill. During the May 2011 water quality monitoring event and the subsequent June 2011 event, Benzene and Tetrachloroethene (PCE) exceeded the Groundwater Standards within groundwater monitoring well MW-2R located along the eastern edge of Phase III. As a result of the confirmed groundwater exceedances, assessment monitoring is required, and the *Assessment Monitoring Plan for MW-2R* was submitted to the Solid Waste Section in accordance with 15A NCAC 13B .0545.

The *Assessment Monitoring Plan for MW-2R* includes the following:

- Groundwater samples will be collected from select groundwater monitoring wells and temporary investigative borings at several locations;
- Groundwater monitoring wells associated with only the closed Phases I, II, and III will be sampled. These include MW- 1, MW-2R, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8;
- Upon completion of groundwater sampling, the temporary investigative borings will be abandoned;
- Surface water samples will be collected from areas downstream of MW-2R;
- A new groundwater monitoring well (MW-15) will be installed approximately 250 feet northeast of MW-2R at the compliance boundary to monitor shallow groundwater. The boring will be extended approximately 15 feet below the water table and contain a 15 foot well screen;
- Groundwater samples from the temporary investigative borings, MW-1, MW-2R, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-15, and surface water samples will be analyzed for the constituents listed in Appendix II of 40 CFR Part 258;
- To verify if the potential presence of landfill gas exists beyond the waste footprint, the well headspace within MW-2R and select other nearby monitoring wells and investigative borings will be monitored for methane gas using a GEM 2000 (or equivalent);
- To further assist in source identification, select leachate indicator compounds (including sodium, chloride and sulfate) will also be analyzed from select groundwater samples; and
- A summary report will be submitted to the Solid Waste Section within four months after receipt of approval of the *Assessment Monitoring Plan for MW-2R*.

As a result, the *Assessment Monitoring Plan for MW-2R* is approved as described with two exceptions:

- The first exception is in regards to the well screen of the new groundwater monitoring well (MW-15). Please be sure that the well screen of the new groundwater monitoring well (MW-15) is installed in order to intersect the groundwater flowpaths currently used by groundwater monitoring well MW-2R. Please also be sure that the new groundwater monitoring well is surveyed by a NC Licensed Surveyor. These two items were not discussed within the *Assessment Monitoring Plan for MW-2R*; and
- The second exception is in regards to Appendix II monitoring at the facility. The monitoring of the constituents listed in Appendix II of 40 CFR Part 258 is required for all thirteen (13) of the existing groundwater monitoring wells at the facility (active and inactive) plus the new groundwater monitoring well to be installed at the facility's compliance boundary (MW-15). The *Assessment Monitoring Plan for MW-2R* stated that the groundwater monitoring wells associated with only the closed Phases (I, II, and III) were to be sampled for the constituents listed in the Appendix II of 40 CFR Part 258.

Pursuant to 15A NCAC 13B .0545(b)(2), additional parameters are to be analyzed which may include constituents in the Appendix II of 40 CFR Part 258 *as directed by the Division*. For any constituent detected in the downgradient wells as the result of analyzing of additional parameters, a *minimum of four independent samples from each well* must be collected and analyzed to establish background for the new constituents. Once the Appendix II baseline monitoring has been completed, pursuant to 15A NCAC 13B .0545(b)(6), the Division may specify an appropriate subset of wells to be sampled and analyzed during assessment monitoring. The Division may delete any of the additional monitoring parameters if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

In addition, Appendix II monitoring of all thirteen (13) groundwater monitoring wells at the facility plus the new groundwater monitoring well to be installed (MW-15) is required due to the number of residential homes, private potable wells, and surface water bodies located within 1,500 feet from the edge of the waste of the facility. Per the Winston-Salem City/County Utility Commission's *Risk Assessment Form* dated July 18, 2011 located within the *Facility Annual Report* for the period of July 1, 2010-June 30, 2011, the following information was provided:

- 121 residential homes are located within 1,500 feet from the edge of waste with the closest residence located approximately 300 feet from the edge of waste;
- 15 private potable wells are located within 1,500 feet from the edge of waste with the closest private potable wells being less than 500 feet from the edge of waste; and
- Five (5) surface water bodies are located within 1,500 feet from the edge of waste with the closest surface water body being less than 50 feet from the edge of waste.

If you have any questions or concerns regarding this letter, please contact me at 919-707-8294 or at jaclynne.drummond@ncdenr.gov. Thank you again for your continued cooperation with this matter.

Sincerely,



Jaclynne Drummond
Compliance Hydrogeologist
Solid Waste Section

cc via email: Ed Gibson, Winston-Salem City/County Utility Commission
Mark Poindexter, Field Operations Supervisor
Jason Watkins, Western District Supervisor
CT Gerstell, Environmental Senior Specialist
Ed Mussler, Permitting Supervisor
John Murray, Permitting Engineer